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CONORHINUS SANGUISUGUS—ITS HABITS AND LIFE HISTORY.

By BERTHA S. KIMBALL, Manhattan.

Conorhinus sanguisugus, the blood-sucking cone-nose, is well known to most entomologists, and was first described from Georgia by Dr. LeConte. It is now a comparatively common insect in northern and western United States, and, like others of the reduviid family, is noted for its bloodthirsty habits. It has several common names besides that of cone-nose, being known as the big bed-bug, Mexican bed-bug or Texas bed-bug. The name *Conorhinus*, by which it is commonly known, is derived from two Greek words, meaning cone-nose, and the insect is defined as a bloodthirsty species which insinuates itself into houses for the purpose of sucking human blood.

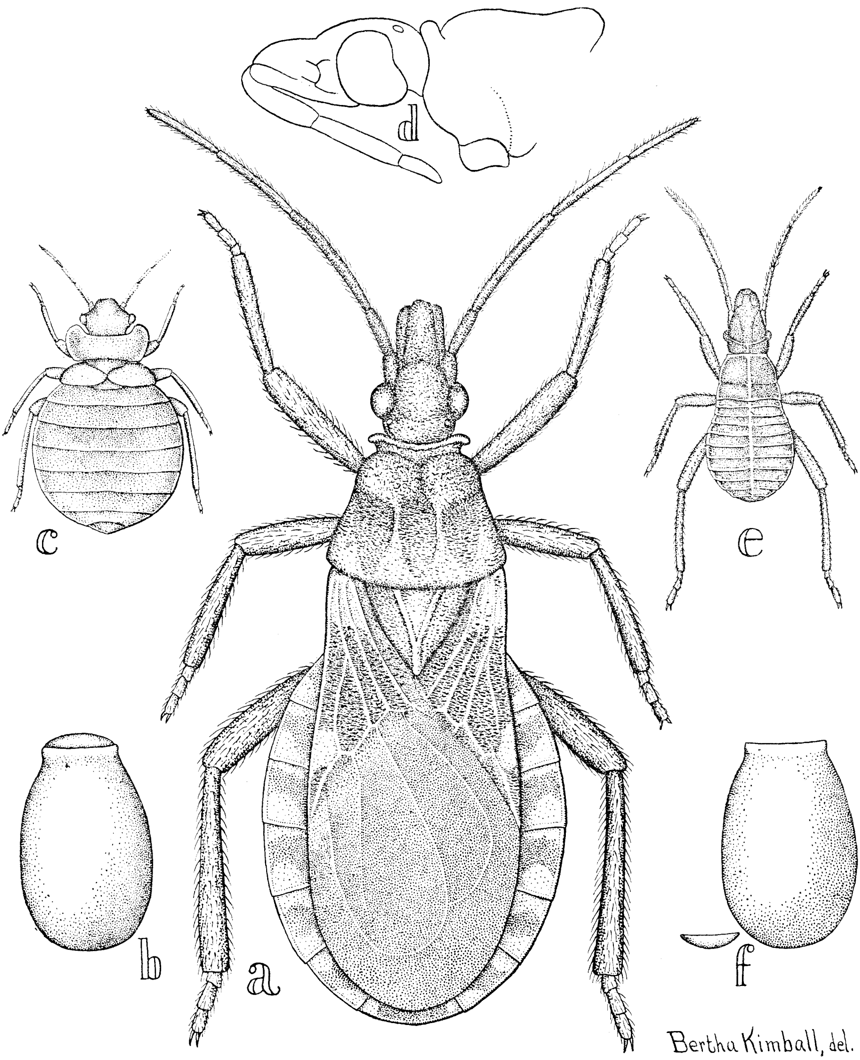
It has, of course, all the characteristics of the reduviid family, and as a species is distinguished particularly by the raised lines of its thorax and scutellum, and by its dull red markings. The conorhinus is an insect one inch in length and of a dull black color marked with red. The antennae are short, slender and four-jointed; the head narrow, thickened back of the eyes, with the ocelli, two in number, placed far apart; the thorax, which is triangular, constricted slightly before the middle, the front raised more than the posterior portion, with two diverging lines raised and extending backward, the sides and posterior portion margined with red; the scutellum small, with two raised lines meeting at the apex to form a V; the wings marked with two triangular red spots, one reaching from the base of the wing half the length of the scutellum, the other smaller and at the center of the wing; the abdomen with the sides strongly recurved and marked with six red spots; the legs slender, the posterior pair a little longer than the other two; the tarsi three-jointed.

The cone-nose differs greatly from the common bed-bug, Acanthia lectularia, which also infests sleeping apartments, and is only too well known to those who travel. The common bed-bug is much smaller, about three-sixteenths of an inch in length, flat and of a reddish-brown color. Its odor when touched or crushed is more than equaled by that of the cone-nose, which is so intense as to penetrate all parts of a room in which it happens to be molested, often leading to its discovery.

It is closely related to the masked bed-bug hunter, Opsicaetus personatus, which is said to enter rooms for the purpose of preying upon the common bed-bug. This species, however, is not found in the United States.

Those who do not notice closely, often confuse the cone-nose with our common boxelder bug, although, except perhaps in color, they are not in the least similar.

The bite or sting of the cone-nose is very painful and often even dangerous, the degree depending both upon the size of the insect and the sensitiveness of the person. It is accompanied by an almost intolerable itching and burning, and often followed by severe headache, nausea, and a feeling of depression often lasting for several days. The swelling from the bite is about as great as that ordinarily caused by a bee sting, but remains longer, and if rubbed, even after the swelling has disappeared, it will swell again. Camphor, ammonia, and the ordinary remedies for bites and stings afford some relief. Although ordinarily causing nothing more than great discomfort, fatal results have been reported from the bite or sting. Dr. LeConte thinks that many reports of spider bites are based on the stings of these or allied species.



BIG BEDBUG (Conorhinus sanguisugus, Lec.)

(a) Adult insect; (b) egg; (f) egg after escape of young bug (e); (d) side view of head and thorax of adult, showing the three-jointed beak; (c) common bed-bug (Acanthia lectularia), shown for comparison.

It is often found in hen houses in large numbers, and where very common infests barns and attacks horses and probably other animals.

Seven years ago a specimen of this insect was comparatively rare in this locality, but they seem to have increased steadily in number, and now appear altogether too frequently. Numerous inquiries have been received by Professor Popenoe during the summer as to this insect, showing it to be a growing nuisance throughout the state.

It is nocturnal in its habits, and seems to be attracted by the light of the lamp in the evening, and is often found crawling upon the screens or flying about the room. It makes a peculiar whirring sound when flying, easily distinguished from that of other insects when once noticed, and should be looked for at once, for sooner or later it finds its way to the sleeping room, much to the discomfort of its occupants. It is particular in its tastes, however, for often one occupant of a room will be entirely unmolested during the whole summer, while another suffers almost every night from the attacks of the insect. It is very difficult to discover unless looked for immediately after the pain of the bite has made its presence known, when it is usually found hiding among the bedclothes. But if left until morning it leaves the bed and hides in clothing or furniture about the room, generally escaping, to make its presence known again in a few days. It is very active, and when discovered runs swiftly but does not attempt to fly.

During August this summer (1894), a dozen bugs, captured at different times, were dropped into a bottle, where they were provided with flies, five or six at a time, upon which they probably fed during the night, as the flies were found dead in the morning. However, if neglected for several days, they seemed to experience no discomfort, and are probably able to go for some time without food. A grasshopper was once dropped into the bottle, but after several days was still alive, and, in its frantic efforts to escape bade fair to annihilate the bugs, which seemed afraid of it. They fed entirely at night and remained quietly at the bottom of the bottle during the day, but that they did crawl or fly during the night was proven by the fact that several eggs were found later, glued or attached in some way to the upper part of the bottle. August 27 several eggs were noticed in the bottle, and the number increased until there were 15 in all, the greater number of which rolled loosely about the bottle. The number laid by each insect was not noted, as so many were confined in one bottle. Soon after the eggs were laid the old bugs began to die. September 18, when the eggs began to hatch, all but two of the bugs were dead, and these died soon after. The egg, which is about the size of a mustard seed, and of a yellow color, is peculiar in its shape, resembling that of a bottle with a thickened rim around the tip, giving this portion the appearance of a stopper, especially after the egg hatches, as the insect pushes out this tiny saucer-like tip, which falls to the ground. Though yellow when first laid, the egg soon changes in color to pink, and then to red, as the insect develops within, until just before hatching, when the segments of the body can be seen through the transparent shell. The young insects are about one-eighth of an inch in length, very active, of a delicate pink color, the legs and antennae almost transparent. The head, prothorax, mesothorax and a spot on each side of the metathorax soon show a grayish tinge, and in a few days are black, the change taking place without molting. The small insects are almost if not quite as troublesome as the adult, and on account of their color and diminutive size are difficult to discover in the evening. Like the adults, they were provided with flies, and killed on an average four or five each night, having excellent appetites until about the middle of November, when they seemed no longer to care for food, and will probably pass the winter in this stage, eating nothing more until spring. Once, when the bugs had been forgotten from Saturday until Monday, and consequently were hungry, fresh flies were given them, the dish was partially covered, darkening it considerably, and the bugs were then watched feeding. One small insect with its extended beak, formidable-looking even in such a little creature, approached a half-dead fly until it touched it, when, bracing itself firmly, it pushed so hard as to roll the fly over, although it was many times larger than the bug. The sense of touch of these small cone-noses seemed not to be very delicate, as they prodded alike upon all parts of the fly's body, trying first the wing, then the eyes, and finally succeeded in puncturing the abdomen. To withdraw the beak, the insect, after bracing itself again, gave a sudden pull backward, and if the cover darkening the dish was removed they immediately stopped feeding and hid themselves as quickly as possible. Without doubt, the cone-nose preys upon other insects, and, to that extent, is beneficial, but its bad deeds so outweigh its good ones, that it must be classed among the injurious insects. By many it has been credited with infesting dwellings for the purpose of preying upon the common bed-bug, but its designs are quite probably of a sinister kind, if "by their works ye shall know them" can be applied to the cone-nose as to the human race. The conclusion that they prey upon the common bed-bug must arise from a supposition, as the bugs are nocturnal, feeding at night and hiding if a light is brought into the room, so that such a habit could hardly have been actually observed. There seems to be no wholesale method of destroying them, and those who at first credit the cone-nose with good intentions, will, when once stung by this insect, be more than ready to pronounce it capable of assault with attempt to kill, and to declare with those who have already suffered from its attacks that sentiment, just as applicable to the body physical as to the body politic, "Eternal vigilance is the price of liberty."